

Claims

1. Camera system, in particular, for an environment detection system of a vehicle, comprising a retaining frame (18, 48) for retaining an optics carrier (38, 70) whose optics (40) guides incident light to an image sensor (14), characterized in that the retaining frame (18, 48) comprises a bearing surface (22, 52), which extends substantially parallel to the plane of the image sensor (40), for a contact surface (42, 72) of the optics carrier, wherein, in an adjustment disposition, the optics carrier is displaceably held in the plane of the bearing surface (22, 52) and can furthermore be permanently fixed in a target position.
2. Camera system according to claim 1, characterized in that the retaining frame (18, 48) or the optics carrier (38, 70) comprise pretensioning means (30, 60) which are suited to force the optics carrier (38, 70) against the bearing surface (22, 52).
3. Camera system according to claim 2, characterized in that the pretensioning means (30, 60) comprise elastically resilient webs (34, 64) which overlap the bearing surface (22, 52) or contact surface (22, 72) and which extend at least perpendicularly to the bearing surface (22, 52) or contact surface (42, 72) and are suited to engage behind sections (41, 72) of the optics carrier (38, 70) or the retaining frame (18, 48).
4. Camera system according to claim 2 or 3, characterized in that the pretensioning means (30, 60) have recesses (32, 68) to realize the elastic resilience.
5. Camera system according to claim 1, 2 or 3, characterized in that the retaining frame (18, 48) is formed such that, in the target

position, the optics carrier (38, 68) can be permanently connected to the retaining frame (18, 48).

6. Camera system according to any one of the preceding claims, characterized in that the retaining frame (18, 48) or the optics carrier (38, 68) are made from a first plastic material and the optics carrier (38, 68) or the retaining frame (18, 48) are made at least in sections from a second optically transparent plastic material such that the bearing surface (22, 52) can be welded to the contact surface (42, 74) of the retaining frame (18, 48) to form a permanent connection.
7. Camera system according to any one of the preceding claims, characterized in that the bearing surface (22, 52) or the contact surface (42, 74) are at least sectionally delimited, at at least two sides, by delimiting webs (22, 24, 26, 54, 56).
8. Camera system according to claim 7, characterized in that the contact surface (42, 74) of the optics carrier (38, 68) can be displaced onto the bearing surface (22, 52) via a side having no delimiting webs.
9. Camera system according to any one of the claims 2 through 8, characterized in that the pretensioning means (30, 60) are disposed on at least two delimiting webs (24, 28, 54, 56).
10. Camera system according to any one of the preceding claims, characterized in that the bearing surface (22, 52) is larger than the contact surface (42, 74) of the optics carrier (38, 70) being supported on that bearing surface (22, 52).

11. Camera system according to any one of the preceding claims, characterized in that the image sensor (14) and/or the retaining frame (18, 58) are disposed on a circuit board (10).
12. Retaining frame (18, 58) or optics carrier (38, 70) for a camera system according to any one of the preceding claims.
13. Method for adjusting an optics carrier (38, 70), comprising an optics (40), relative to an image sensor (12), wherein a retaining frame (18, 58) has a bearing surface (22, 52) which is disposed at least substantially parallel to the plane of the image sensor (12), wherein the optics carrier (38, 70) has a contact surface (42, 74) for abutment against the bearing surface (22, 52), characterized by the following steps:
 - a) displacement of the contact surface (42, 74) of the optics carrier on the bearing surface (22, 52) of the retaining frame (18, 58) until a target position of the optics (40) or the optics carrier (38, 70) relative to the image sensor (12) or retaining frame (18, 58) has been reached; and
 - b) permanent fixing of the optics carrier (38, 70) to the retaining frame (18, 58).
14. Method according to claim 13, characterized in that a suitable test image is projected onto the optics (40) to determine the target position, wherein displacement according to step a) is continued until the position of the test image corresponds to the image of the target position recorded by the image sensor (12).
15. Method according to claim 13 or 14, characterized in that permanent fixing is effected through welding and/or gluing.